

B. Sc. IT 2nd Semester

Course Title: Data Structure through C

Time: 2 and half hrs.

Session: 2011

BIT: 203

MAX Marks: 80

Note: Attempt all the questions from Section A and Section B and only two questions from Section C.

Section A: (Very Short Answer Type Questions)

Q1.

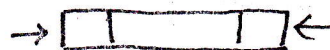
- i. ✓ What is data structure?
- ii. ✓ To search an item in the list of 100 items, what is the maximum attempt required using Binary Search technique?
- iii. ✓ What is the return type of malloc()?
- iv. ✓ What is dynamic array?
- v. ✓ Give an example in C to represent a tree.
- vi. ✓ What is the meaning of static implementation?
- vii. ✓ What is D-queue?
- viii. ✓ What is the syntax of calloc()?

Section B: (Short Answer Type Questions)

- Q2. ✓ Write a program in C to search a particular name in the list of names of student using any search technique.
- Q3. ✓ Write a program in C for static implementation of Queue.
- Q4. ✓ How to pass structure variables to a function? Explain using a program example.
- Q5. ✓ Write a program for creation display of doubly linked list.

Section C: (Long Answer Type Questions)

- Q6. ✓ Write a program in C to delete and insert an element in an array of numbers.
- Q7. ✓ Write a program in C to convert from infix to prefix. Also, explain the concept with the help of suitable examples.
- Q8. ✓ a. What is array of pointers? Explain with the help of suitable examples.
b. Explain the different types of memory allocation.
- Q9. ✓ Write a program in C to do the following:-
 - a) Create a linked list.
 - b) Display the contents of the linked list.
 - c) Reverse the contents of the linked list.



$\log_2 100$

$\log_{10} 100$

$2 \log_{10} 10$